RIVERTON TOWNSHIP — Claus Soerensen and his colleagues have weeds shaking in their roots.

For the past three to four years, the Danish agricultural engineering scientists have been working on a solution to control weeds for vegetable farming.


Soerensen, who came to the U.S. for a conference in Minnesota and is currently visiting family friend, Eric Sherman of Ludington, met with a couple local farmers at Bill and Ron Schwass’ Springdale Farms Monday morning to talk about his prototype.

Currently, the robot can identify approximately 25 different kinds of weeds and is equipped with a computer and GPS to find the exact location of the weeds and the plants themselves.

Depending on the needs of the farmer and the kind of vegetable crop, Hortibot has a variety of weed-removing attachments and methods. It can manually pick weeds, spray, or remove them using flames or a laser.

Hortibot is much more environmentally friendly than traditional methods of weed removal.
“You look at the environment and then you act,” Soerensen said.

By spraying exactly on the weeds and using the robot’s other techniques, Hortibot will reduce herbicide usage by 75 percent, Soerensen said.

“We are limited to what we can use and how much,” said Bill Schwass, a fifth-generation farmer. “Environmentally, if we can do something like this mechanically versus herbicides, it’s and advantage to all of us,” Bill said.

One major benefit to the robot is that it’s lightweight, between 450-650 pounds, which reduces the amount of soil compaction in the field.

Even attaching the unit to a small tractor will weigh less than the machinery currently used for weed-elimination.

“The idea is using small multiple units instead of large, big tractors,” Soerensen said.

Another perk to the robot will be reducing labor costs.

Hortibot could work the fields around the clock, Soerensen said.

“The labor problem will bring this in, when the government gets done with their immigration laws,” Jim Schwass said.

Although Hortibot is still a prototype, Soerensen said it is ready to be commercialized and is looking for a manufacturer to start production. If the robot was available for purchase right now, it would cost about $71,000. The sprayer the Schwass family currently uses, however, is $150,000.

“We use that to apply a costly product and we’re still going back and hand-hoeing,” Bill said.

What concerns Bill, however, is how many units he would have to purchase for his size farm, 2,500 acres, including 1,000 acres for vegetable crops.

The next step in the project for Soerensen, after finding a manufacturer, is continuing work on standardizing parts, like modified wheels for different terrain.

To achieve the best results there needs to be more cooperation between the United States and Europe, Soerensen said. “There needs to be better communication.”

Soerensen said automation is going to be the way of the agricultural industry in the future.

“We need to keep looking at ways to do things different and better,” Bill said.
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